REMARKS

Reconsideration and allowance of the present application are respectfully requested.

Claims 3, 4, 5, 6, 8, 12, 13, 15, 16, 17, 20, 22, 25, 26, 27, 34, 35 and 36 are pending in this application. Claims 3, 5, 6, 8, 12, 15, 16, 17, 20, 22 and 25 have been amended. Claims 34-36 are new. Claims 1, 2, 7, 9, 10, 11, 14, 18, 19, 21, 23, 24 and 28-33 have been cancelled. Claim 27 is withdrawn.

No new matter has been added.

In response to the rejection of claims 1-26 and 28-33 under 35 USC 112, second paragraph, the terms "less sulfur small" and "less diacetyl smell" have been deleted from the claims. Accordingly, withdrawal of this rejection is respectfully requested.

The applicant respectfully traverses the rejection of claims 9 and 10 under 35 USC 102(b) in view of Nakanishi et al. This reference does not anticipate the presently claimed invention or make it obvious.

Please note, however, that claims 9 and 10 have been deleted as shown above. Accordingly, this rejection has been rendered to be moot. Withdrawal of this rejection is respectfully requested.

The applicant respectfully traverses the rejection of claims 1-8, 21-26 and 32-33 under 35 USC 103(a) over Jangaard et al in view of statements in the present application. These references do not make the presently claimed invention to be obvious.

Please note that claim 8 has been amended as shown above with modification of L-methionine concentration in wort from "0.09mM to 5mM " to

"0.09mM to 1mM."

The Office Action states that Jangaard et al. discloses a method for producing fermented beverage (beer) with no hydrogen sulfide that produces sulfur smell in beer, wherein L-methionine is added to the wort. However, Jangaard does not disclose or suggest, nor provide a reasonable expectation of success for resulting in a method for producing a low-alcohol fermented beverage with no hydrogen sulfide.

As disclosed from page 4, line 27 to page 5, line 3 of the present specification, regarding the production of fermented beverages through a fermentation stopping process that requires no capital investment, sufficient studies have not yet been made to obtain products with an excellent aroma by preventing off-flavors. Under the circumstances, as described on page 12, lines 7 to 9, of the present specification, the inventors found that in controlling the L-methionine concentration in wort, in view of cost and influence on product aroma, the upper limit may be 5 mM or less, and more preferably 1 mM or less. Jangaard is silent about the preferred L-methionine concentration in wort being 0.09 mM to 1 mM in producing a low-alcohol beverage through a fermentation stopping process where the fermentation is stopped at an alcohol concentration less than 1%.

Accordingly, the applicant submits that the presently claimed invention, as recited for example in claim 8 and claims dependent thereon, is no where disclosed, suggested or made obvious by the teachings of Jangaard taken with disclosures in the present application. The presently claimed invention is fully allowable under Section 103(a) in view of the prior art.

The applicant respectfully traverses the rejection of claims 11-13 under 35 USC 103(a) in view of Nakanishi et al. and Pugh et al. These references do not make the presently claimed invention to be obvious.

Pursuant to the Office Action, the Examiner admits that Nakanishi et al. does not disclose specific control of L-valine as claimed in the present application. However, the Office Action states that one of ordinary skill in the art would have been motivated to modify Nakanishi and to employ valine as a marker to optimize the wort free amino nitrogen as taught by Pugh et al.

Nakanishi discloses a method for reducing a level of diacetyl in production of alcoholic beverages. However, the method disclosed in Nakanishi is directed to a two-step production method, namely a first fermentation step in which substantial growth of a yeast takes place, and subsequently a second fermentation step in which there is no substantial growth of a yeast. As stated in Nakanishi, column 1, lines 11 to 29, the production steps of alcoholic beverages generally consist essentially of the earlier stage of fermentation wherein fermentation proceeds with growth of yeast, and subsequent thereto, the later stage of fermentation wherein fermentation proceeds without substantial growth of yeast.

In the earlier stage of fermentation, simultaneous with progress of consumption by the yeast of both nitrogen and carbon, diacetyl, will inevitably be formed, but which by-production should be avoided. On the other hand, consumption of the carbon takes place mainly in the later stage of fermentation, and the later stage is also the step of making the diacetyls formed in the earlier stage of fermentation, to disappear. Nakanishi discloses a method to reduce a quantity of once-formed diacetyl in the second step of the fermentation <u>without growth of yeast.</u>

In contrast, the presently claimed invention provides for a method for suppressing diacetyl formation in the fermentation step with growth of yeast by adjusting the free amino nitrogen level (FAN level) in wort or fermenting wort. This means that the steps in which diacetyl concentration is suppressed or reduced are significantly different between the presently claimed invention and the teachings of Nakanishi.

With respect to Pugh et al., please note that diacetyl concentration shown in Figure 5 (believed to be mistakenly referred to by the Examiner as Figure 3) of the reference is higher than 1ppm. In contrast, diacetyl concentration in the fermented beverage obtained by the invention recited in claims 15 and 16 as amended above, are 0.1 ppm or less.

As described from page 12, line 26 to page 13, line 2 of the present specification, "these four compounds are collectively defined as the total vicinal-diketone (T-VDK) and are desired to be maintained at a level less than 0.1 ppm, their acceptable limit for fermented beverages." The present inventors found that low-alcohol fermented beverage in which diacetyl concentration is 0.1 ppm or less can be obtained by a fermentation stopping process, wherein the free amino nitrogen level in wort and L-valine concentration are set with the value such as in claims 15 and 16. The applicant submits that a person of ordinary skill in the art would not be led to these findings, as recited for example in claims 15, 16, by combining the disclosures of Nakanishi et al. and Pugh et al.

Accordingly, the applicant submits that the presently claimed invention, as recited for example in claims 15 and 16 and claims dependent thereon, is no where disclosed, suggested or made obvious by the teachings of Nakanishi et al. taken with

Pugh et al. Nor would a person of ordinary skill in the art find a reasonable expectation of success to result in the presently claimed invention in view of the teachings of Nakanishi taken with those of Pugh. The presently claimed invention is fully allowable under Section 103(a) in view of the prior art.

The applicant respectfully traverses the rejection of claims 14-16, 23-26, 28, 30 and 32-33 under 35 USC 103(a) over Nakanishi et al in view of statements in the present application. These references do not make the presently claimed invention to be obvious.

Please note that claims 15 and 16 have been amended as shown above to include the term "and wherein the free amino nitrogen level in fermenting wort is adjusted to give an L-valine concentration of 0.1 to 10 mM ."

In the Office Action, the examiner admits that Nakanishi et al. is silent as to the production of low-alcohol beers and a particular alcohol content of beer. Again, the steps in which diacetyl concentration is suppressed or reduced are significantly different between those of Nakanishi and the presently claimed invention.

Further, the present inventors found that low- alcohol fermented beverage in which diacetyl concentration is 0.1 ppm or less can be obtained by a fermentation stopping process, wherein the free amino nitrogen level in wort and L-valine concentration are set with the value such as recited in amended claims 15 and 16. These findings are not obtained by combining the disclosures of Nakanishi et al. with statements in the present application.

Accordingly, the applicant submits that the presently claimed invention, as recited for example in claims 15 and 16, and claims dependent thereon, is no where disclosed, suggested or made obvious by the teachings of Nakanishi et al. taken with

disclosures in the present application. The presently claimed invention is fully allowable under Section 103(a) in view of the prior art.

The applicant respectfully traverses the rejection of claims 17, 23-26, 29, and 31-33 under 35 USC 103(a) over Ramos-Jeunehomme in view of statements in the present application. These references do not make the presently claimed invention to be obvious.

Ramos-Jeunehomme does not teach or suggest in any way how a fermented beverage can be produced through a fermentation stopping process with quite a low amount of hydrogen sulfide and vicinal diketones. A person of ordinary skill in the art would not be led to consider the teachings of Ramos-Jeunehomme when considering the presently claimed invention.

Accordingly, the applicant submits that the presently claimed invention is no where disclosed, suggested or made obvious by the teachings of Ramos-Jeunehomme taken with disclosures in the present application. The presently claimed invention is fully allowable under Section 103(a) in view of the prior art.

The applicant respectfully traverse the rejection of claim 18 under 35 USC 103(a) over Ramos-Jeunehomme in view of Jangaard et al, Nakanishi et al and statements in the present application. These references do not make the presently claimed invention to be obvious.

Please note, however, that claim 18 has been cancelled as shown above, thus rendering this rejection to be moot. Withdrawal of this rejection is respectfully requested.

The applicant respectfully traverses the rejection of claims 19 and 20 under 35 USC 103(a) over Ramos-Jeunehomme in view of Jangaard et al, Nakanishi et al

and statements in the present application in view of Pugh et al. These references do not make the presently claimed invention to be obvious.

Claim 19 has been cancelled as shown above. Claim 20 is dependent on amended claim 17. The applicant submits that claim 17 has been shown to be allowable in view of the amendments to the claim and the above remarks. Dependent claim 20 should accordingly be held to be allowable.

Claim 20 is fully allowable under Section 103(a) in view of the prior art.

In view of the above, it is believed that this application is in condition for allowance and a Notice to that effect is respectfully requested.

Respectfully submitted,

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